1909MNRAS..69..212.

Observations of Planet 1908 *DT, from Photographs taken with the* 30-*inch Reflector at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

This planet, which is of 14–15 magnitude, was discovered on photographs of the region about Saturn taken for observation of Phœbe. It has been measured on 16 photographs taken on 9 nights, and reduced in the same manner as Phœbe.

Date and G.M.T.					Apparent R.A.			Apparent Dec.			Log Parallax Factor.	
1908.	d	h	m	s	h	m	s	°	′	″	R.A.	Dec.
Aug.	24	12	20	29	0	40	18·04	+0	43	53·6	−9·283	+0·829
	25	12	18	51	0	39	56·98	0	43	43·8	−9·275	+0·829
	25	14	1	10	0	39	55·50	0	43	43·1	−8·529	+0·828
	27	14	8	27	0	39	6·00	0	42	56·8	−7·950	+0·828
	28	12	10	16 (*a*)	0	38	40·90	0	42	17·3	−9·263	+0·829
	28	14	3	14	0	38	33·84	0	42	19·6	−8·028	+0·829
	29	12	27	47	0	38	10·31	0	41	32·2	−9·183	+0·829
	29	13	56	31	0	38	8·43	0	41	27·7	−9·171	+0·829
	30	12	3	27	0	37	39·06	0	40	30·9	−9·258	+0·830
	30	13	55	31	0	37	36·46	0	40	27·7	−7·988	+0·829
Sept.	1	12	7	33	0	36	29·08	0	38	12·2	−9·214	+0·830
	2	12	6	2	0	35	51·61	0	36	42·1	−9·203	+0·830
	2	13	29	57	0	35	48·55	0	36	36·4	−8·489	+0·829
	2	14	35	31	0	35	47·09	0	36	31·8	+8·868	+0·829
	4	11	47	49	0	34	29·96	0	33	31·0	−9·240	+0·831
	4	13	11	38	0	34	27·01	0	33	25·1	−8·668	+0·830

(*a*) Very faint and diffused.

Royal Observatory, Greenwich:
1909 *January* 8.

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Observations of Saturn's Ninth Satellite, Phœbe, *from Photographs taken with the* 30-*inch Reflector at the Royal Observatory, Greenwich, in* 1908.

(*Communicated by the Astronomer Royal.*)

Photographs of Phœbe have been taken with the 30-inch reflector during the recent opposition of Saturn, starting as early as practicable, so as to secure positions at eastern elongation. In all 23 photographs have been secured on 15 nights, between July 31, just before eastern elongation, and September 7, when the series was interrupted on account of Comet *c* 1908 (Morehouse).

The position of the satellite has been measured on photographs taken with the reflector with reference to faint comparison stars (of eleventh or twelfth magnitude), symmetrically distributed about the satellite. The positions of these faint comparison stars were then measured relatively to the reference stars (of eighth to ninth magnitude) on a photograph (with two exposures of 40^{m}) taken with the Astrographic 13-inch refractor. The field, sensibly free from distortion, being much larger with this telescope than with the reflector, 32 reference stars were available on the plate. As Saturn moved slowly, it was possible to make one reference plate serve for all the photographs, which were each referred to it. The constants were determined in the usual manner, all the stars on the plate given in the Astronomische Gesellschaft catalogues being used for this purpose. Right Ascensions and Declinations of the satellite were then determined, and compared with the corrected tabular places of Saturn after applying the corrections

in R.A. $+^{\mathrm{s}}$·08 and Dec. 0″·0

as determined below.

The G.M.T. is the arithmetical mean of the times of beginning and end of exposure.

Observations of Phœbe.

Date and G.M.T.		Exp.	Apparent R.A.	Apparent Dec.	Phœbe − Saturn.	
					R.A.	Dec.
1908. d	h m	min.	h m s	° ′ ″	m s	′ ″
July 31	13 27·7	90	0 43 23·79	+1 59 42·4	+2 19·02	+17 41·0
Aug. 1	13 35·5	90	0 43 20·48	1 59 2·9	2 19·07	17 40·6
2	13 19·9	90	0 43 16·88	1 58 23·1	2 19·14	17 41·6
3	13 20·6	100	0 43 12·94	1 57 40·7	2 19·28	17 42·6
24	12 20·5	100	0 40 26·36	1 34 20·1	2 18·24	17 29·8
25	12 18·9	90	0 40 14·75	1 32 52·3	2 18·07	17 28·7
25	14 1·2	100	0 40 13·83	1 32 45·0	2 17·97	17 27·7
27	11 54·8	70	0 39 50·81	1 29 53·2	2 17·67	17 26·4
27	14 8·5	85	0 39 49·66	1 29 42·8	2 17·64	17 24·4
28	12 10·3	86	0 39 38·13	1 28 17·0	2 17·41	17 22·7
28	14 3·2	90	0 39 37·16	1 28 9·4	2 17·42	17 22·4
29	12 27·8	90	0 39 25·12	1 26 40·5	2 17·12	17 20·4
29	13 56·5	70	0 39 24·33	1 26 36·7	2 17·11	17 22·4
30	12 3·5	90	0 39 12·29	1 25 6·0	2 16·90	17 18·7
30	13 55·5	110	0 39 11·27	1 24 59·7	2 16·89	17 19·7

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